CITY OF NEWPORT BEACH

COMMUNITY DEVELOPMENT DEPARTMENT
BUILDING DIVISION
3300 Newport Boulevard | P.O. Box 1768 | Newport Beach, CA 92658
www.newportbeachca.gov | (949) 644-3275

SOLAR VOLTAIC
BUILDING & FIRE PLAN REVIEW COMMENTS
RESIDENTIAL

Project Description:

Project Address:		**Plan Check No.:**
Permit App. Date:		Plan Check Expires:
Use:	Occupancy:	Const. Type:
No. Stories:	Permit Valuation:	Adjusted Valuation:
Architect/Engineer:		Phone:
Applicant/Contact:		Phone:
Plan Check Engineer:		**Phone:**

Engineer email:

X	1st Review: (date)		2nd Review: *Italic comments*		3rd Review: **By Appointment**

The project plans were reviewed for compliance with the following codes and standards:
2010 CRC; 2010 CBC; 2010 CPC; 2010 CEC; 2010 CMC; 2008 Building Energy Efficiency Standards (BEES); 2010 California Green Building Standards Code (CALGreen); & Chapter 15 of the Newport Beach Municipal Code (NBMC).

The code section references are from the 2010 CBC, unless otherwise stated.

- *TO EXPEDITE PROJECT APPROVAL:* Please provide a written response indicating how and where each comment was resolved on the plans.
- Resubmit all previously reviewed plans, updated plans and supporting documents with each subsequent review.
- *AFTER 2nd PLAN REVIEW*: Please call the plan check engineer listed above to schedule a plan review appointment, to expedite project approval.
- For clarification of any plan review comment, please call the plan check engineer listed above.
- Plan review status is available online at ***www.newportbeachca.gov***. Project status is also available using the interactive voice response system at 949-644-3255, or by speaking with a permit technician at 949-644-3288 during business hours.

GENERAL

1. Obtain approval from the following:
   a. Building Division
   b. Electrical review
   c. Planning Division
   d. Fire Department
2. Provide four sets of plans, minimum 18" x 24"; attach all manufacturers' specification sheets, installation instructions and listings.
3. Indicate on the Title page of the plans the following; Occupancy group R3/U; number of stories for the structure along with the total square footage of the arrays. Indicate if the solar panels are on the first floor roof or the second floor roof etc. Indicate the square footage for each array along with the total number of arrays and the total square footage of all arrays per roof plane, first floor roof, second floor roof etc. Indicate the existing roofing material and the roof's slope/pitch on a roof plan. Indicate total system KiloWatts.
4. Add the following note to plans: "All work to comply with 2010 California Building Code; 2010 Electrical Code [2008 NEC] - Article 690, all manufactures' listing and installation instructions."
5. Add the following note to plans: "Inspection required for roof connection mounting assemblies prior to installing solar module."

BUILDING

6. The plans must clearly indicate the spacing of the array's supports and their connectors along with the size, direction with span length and spacing of the supporting roof framing members. If spacing of the array's supports are greater than 4 feet on center, calculations for the existing roof framing members is required. Engineer must address in their calculations if ponding is a problem for roofs with less than 2:12 pitch to 1/4 inch per foot of slope. Calculations must indicate the dead loads for all of the roofing assembly components and the live loads used.
7. Provide array anchorage to roof detail within the plans.
8. All sheets must be signed by the State of California licensed contractor who prepared them with a classification of "A", "B", "C-46" or "C-10". Provide the individual's printed name with signature and license class and number on each sheet. This correction shall be revisited at the time of each submittal.
9. Provide lateral calculations by a licensed professional engineer or architect per 2010 C.B.C. showing that affected existing lateral resisting elements are no more than 10% overstressed according to the 2010 C.B.C. ALTERNATE 1. Lateral analysis is not required if total area of arrays is less than 250 sq. ft. over a second story roof or 350 sq. ft. over a first story roof. ALTERNATE 2. Weight of system does not exceed 1 lb. times the entire area of roof on which the panels are located, provided the house has not been previously reroofed with roofing material heavier than the original roofing material's weight. Applicant shall research permit records on file at the City. Provide supporting information within the plans to justify findings, should ALTERNATE 2 be used. **Plans must clearly state**: "The contractor has researched the permits and plans for this property on file at City Hall. The original roofing material's weight was _____lbs/s.f. and has not increased since the original construction." Otherwise, for projects with reroofs which increased the weight from the original roofing material's weight, or proposed projects exceeding the allowable additional weight of 1 lb/ft^2, see correction item below.
10. Structural calculations must review lateral per section **3403.2.3.2 CBC** "Alterations are permitted to be made to any structure without requiring the structure to comply with Section 1613, provided the alterations conform to the requirements for a new structure. *Alterations that increase the seismic force in **any existing structural element** by more than **10 percent** cumulative **since the original construction*** or decrease the design strength of any existing structural element to resist seismic forces by more than 10 percent cumulative since the original construction *shall not be permitted unless **the entire seismic-force-resisting system is determined** to conform ASCE 7 for a new structure.* If the building's seismic base shear capacity has been increased since the original construction, the percent change in base shear may be calculated related to the increased value." Therefore, a base shear analysis is required for the structural elements, not a dead load only comparison. The calculation must indicate the lateral resisting base shear based on the respective "Response Modification factors" for the year built versus today's "R value" as a comparison on base shear loading and distributions to structural elements supporting the additional load from the proposed alteration.
11. Ongoing projects, new single family dwelling or addition, with an open Building permit, with an Engineer of Record (EOR), require the solar voltaic plans to be reviewed as a separate submittal from the open Building permit and will require the EOR's review stamp of approval on the solar plan sheet which indicates the location of the panels, due to the additional weight onto the EOR's design for the structure. This correction shall be revisited at the time of each submittal. Engineer is encouraged to call the plan checker to discuss comments prior to re-submittals.

FIRE / BUILDING

12. Access, Pathways, and Smoke Ventilation:

a. Residential Buildings with hip roof layouts:

- Modules shall be located in a manner that provides one three-foot wide clear access pathway from the eave to the ridge on each roof slope where panels are located. The access pathway shall be located at a structurally strong location on the building (such as a bearing wall.)

b. Residential Buildings with a single ridge:

- Modules shall be located in a manner that provides two three-foot wide access pathways from the eave to the ridge on each roof slope where panels are located.

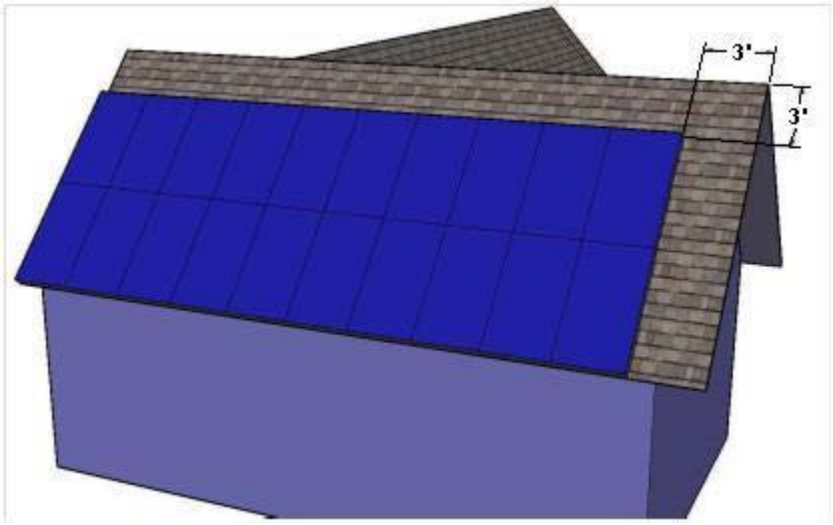
c. Hips and Valleys:

- Modules shall be located no closer than one and one half feet to a hip or a valley if panels are to be placed on both sides of a hip or valley. If the panels are to be located on only one side of a hip or valley, that is of equal length then the panels may be placed directly adjacent to the hip or valley.

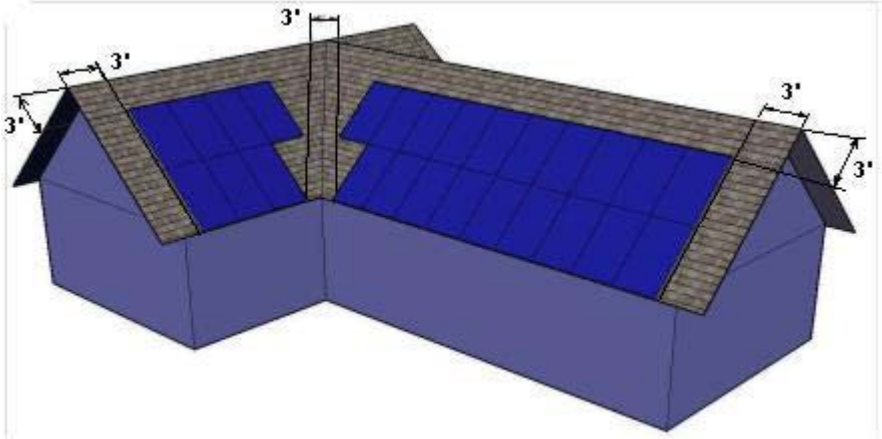
d. Ventilation:

e. Modules shall be located no higher than three feet below the ridge.

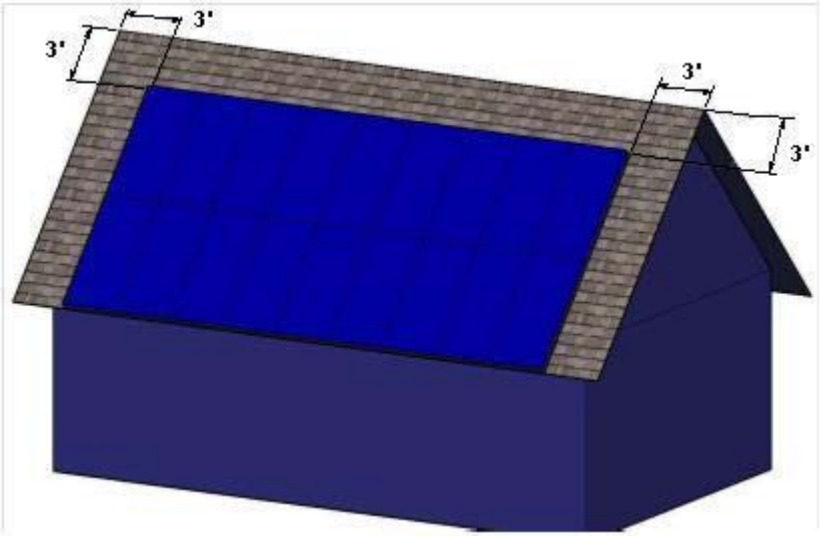
EXAMPLE 1 Cross Gable Roof



EXAMPLE 2 Cross Gable with Valley



EXAMPLE 3: Full Gable



Example 4: Full Hip Roof